

SECTION 4150

PART 1 GENERAL

1.1 SCOPE:

- A. This work consists of the construction of PCC sidewalks, paths, driveways, entrances and ADA ramps for both new construction as well as rehabilitation improvements.
- B. Place, construct, and install PCC structures as specified herein in accordance with Standard Details:

PART 2 PRODUCTS

2.1 AGGREGATE BASE FOR GRADING:

- A. Aggregate base material shall be 1-inch minus crushed rock and conform to the requirements of Section 2300 of the Standard Construction Specifications.

2.2 PORTLAND CEMENT CONCRETE (PCC):

- A. Shall conform to Section 2000 of the Standard Construction Specifications.
- B. Use high early strength concrete to obtain 3,500-psi compressive strength at the age of 3-days for existing driveway rehabilitation work so residents may access their driveways in 3-days or less.

2.3 BITUMINOUS HOT MIX ASPHALT (HMA):

- A. Bituminous HMA shall conform to Section 2400 of the Standard Construction Specifications.

2.4 EXPANSION/CONTRACTION JOINT MATERIALS:

- A. Joint materials, when required, shall conform to Section 2000 of the Standard Construction Specifications.

2.5 CURING MATERIALS:

- A. Curing materials shall conform to Section 2000 of the Standard Construction Specifications.

2.6 STEEL REINFORCEMENT:

- A. When required for commercial and industrial sidewalks and driveway approaches use steel conforming too and placed in accordance with Section 2100 of the Standard Construction Specifications.

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PART 3 EXECUTION

3.1 DEMOLITION AND REMOVAL OF EXISTING:

- A. All concrete and asphalt to be removed for installation of replacement structure shall be vertically saw cut to ensure neat vertical face to adjoin new.
- B. Debris (i.e., concrete, asphalt, unclassified excavations and etc.) shall be removed from site to a state approved landfill.
- C. Removal of existing concrete driveways, pathways and the like shall be incidental to the unit price of constructing new.

3.2 EARTHWORK:

- A. Earthwork shall conform to the requirements of Section 3100 of the Standard Specifications.
- B. Clearing and grubbing, excavation, haul of waste material, and import of subgrade material shall be incidental to placement of sidewalks and driveways.

3.3 AGGREGATE BASE:

- A. Aggregate base shall be placed in a uniform manner to the thickness shown on the plans and compacted to a cohesive mass to provide best aggregate interlock and deter unnecessary saturation of concrete, and to limits herein;

- | | | | |
|----|-----------------------------|-----|--------------|
| 1. | Under Sidewalks & Paths | 92% | AASHTO T-180 |
| 2. | Under Driveways & Entrances | 95% | AASHTO T-180 |

- B. The aggregate base shall be thoroughly dampened prior to placing PCC.

3.4 FORMING:

- A. Forming shall conform to Section 2000 of the Standard Construction Specifications.

3.5 MIXING AND DELIVERY OF PCC:

- A. Mixing and delivery of PCC shall conform to Section 2000 of the Standard Construction Specifications.

3.6 PLACING PCC:

- A. Placing of PCC shall be in conformance to Section 2000 of the Standard Construction Specifications.
- B. Where weep holes are called out on the plans and run under sidewalks and/or any other concrete

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pathways the carrier pipe shall have a min. of 2/3 the thickness as cover.

3.7 FINISHING OF PCC:

- A. Broom finish all exposed surfaces and in the direction(s) shown on the Plans.
- B. Provide a 3-inch shine on all edges and at joints.

3.8 CURING OF PCC:

- A. Curing of PCC shall conform to Section 2000 of the Standard Specifications.

3.9 PROTECTION OF PCC:

- A. Contractor shall protect PCC in conformance to Section 2000 of the Standard Construction Specifications.

3.10 SINGLE FAMILY RESIDENTIAL DRIVEWAYS AND ENTRANCES:

- A. Single Family Residential driveways and entrances shall be as shown on the Plans and listed as follows;

1-inch minus crushed aggregate base	4-inches thick
PCC	6-inches thick
#4 def. bar reinforcement	None

- B. See Standard Detail No.4150-1.

3.11 ALL OTHER DRIVEWAYS AND ENTRANCES:

- A. All other driveways and entrances shall be as shown on the Plans and listed as follows;

1-inch minus crushed aggregate base	6-inches thick
PCC	8-inches thick
#4 def. bar reinforcement	12-inches O.C.

- B. See Standard Detail No. 4150-1.

3.12 SIDEWALKS:

- A. Construct Sidewalks of PCC as specified in Section 2000 and with a 28-day compressive strength of 3,500-psi.
- B. Sidewalks that cross through all driveways and vehicular traffic paths shall be of the same structural dimensions as the driveway.

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- C. Sidewalks in all other cases shall be as shown on the Plans and listed as follows;

1-inch minus crushed aggregate base	4-inches thick
PCC	4-inches thick

- D. Broom finish sidewalks in a transverse direction to normal travel, as shown on plans, and provide a 3-inch edge shine and at joints.
- E. Provide expansion/contraction joint filler material, as specified in Section 2000, when new constructed sidewalks encounter different structures and as directed by the Engineer.
- F. See Standard Detail Nos. 4150-3, 4150-4, 4150-7 and 4150-8.

3.13 ADA RAMPS:

- A. CONFLICT IN REGULATIONS: ADA ramps shall conform to the latest Federal and State of Oregon regulations and the American's with Disabilities ACT and shall supersede these specifications.
- B. WARNING PANELS AND TILES: Precast engineered warning panels shall be safety yellow in color. Catalog cut sheets and samples shall be submitted to the Engineer prior to construction for approval. The Engineer will make final judgment in the acceptability of the product for the application.
- C. GRADE AND DIMENSION: constructed ADA ramps in accordance to the Plans, unless in conflict with 3.13(A) then to the more stringent requirement, and the same as adjoining sidewalk requirements for each case and in accordance with the Standard Details.
- D. MATERIAL: Construct ADA ramp (except warning panel/tile) out of PCC as specified in Section 2000 with a 28-compressive strength of 3,500-psi.
- E. See Standard Detail Nos. 4150-5 and 4150-6.

3.14 DRIVEWAY & ACCESS APPROACH REAHABILITATIONS:

- A. Overall width of approach rehab. repairs shall be 24-inches as measured from the face of the curb, min. Depth of driveway replacement can be greater if required by the Engineer, and acceptable to property Owner, to accommodate drainage, grade and/or construction to adjacent structure.
- B. Construct approach rehab. out of PCC as specified in Section 2000 using Type III or IIIA (high early strength) and achieving a compressive strength of 3,500-psi in 3-days. Local traffic shall be able to have access back within 3-days, max.
- C. See Standard Detail No. 4150-2

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3.15 MEASUREMENT AND PAYMENT:

- A. **EXISTING DRIVEWAY, SIDEWALK, ADA RAMP AND APPROACH REMOVAL** - Payment shall be made at the contract unit price for each, itemized separately. The contract price shall be full compensation for saw cutting, excavation, hauling and disposal of removed structure to include throat(s) and inclined wing(s). Adjacent curb shall not be included in this payment item, however, monolithic curb attached at the throat of the driveway is included in the area measurement. This pay item shall be for demo of existing structures not being replaced by new. New structures will include demo in the unit price of the new.
- B. **NEW SIDEWALKS** - Payment shall be made at the contract unit price for Sidewalks - complete. The contract price shall be full compensation for demolition of existing concrete sidewalk structures, unclassified excavation, sub-base preparation, base aggregate installation and preparation, forming, PCC placement, finishing and curing. This shall not include the section of sidewalk, which is described in 3.15(C), of this Section, through the driveway. Adjacent curb shall not be included in this payment item.
- C. **NEW DRIVEWAYS** - Contract shall indicate separate bid items for single family residential and "all other" driveways and entrances - complete. Payment shall be made at the contract unit price for driveways. The contract price shall be full compensation for demolition of existing concrete driveway structures, unclassified excavation, sub-base preparation, base aggregate installation and preparation, forming, concrete placement, finishing and curing. This shall include the section of sidewalk through the driveway and inclined wings on both sides of the throat of the driveway. Adjacent curb shall not be included in this payment item.
- D. **NEW ADA RAMPS** - Payment shall be made at the contract unit price for ADA Access Ramp(s) - complete. The contract price shall be full compensation for demolition of existing concreted ADA ramps, unclassified excavation, sub-base preparation, base aggregate installation and preparation, forming, concrete placement, finishing and curing. This shall include the section of sidewalk through the ADA ramp and inclined wings on both sides of the throat of the ramp. Adjacent curb shall not be included in this payment item.
- E. **NEW DRIVEWAY APPROACH REHABILITATION** - The contract price shall be full compensation for demolition of existing concrete approach structures, unclassified excavation, sub-base preparation, base aggregate installation and preparation, forming, concrete placement, finishing and curing. This shall include the section of driveway slab measuring 18-inches behind the curb cut and inclined wings on both sides of the throat of the driveway. Adjacent curb shall not be included in this payment item.

PART 4 TESTING

4.1 EARTHWORK:

- A. When requested by the Engineer, earthwork shall be sampled and tested in accordance with Section 3100 of the Standard Specifications.

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4.2 AGGREGATES:

- A. When requested by the Engineer, aggregates shall be sampled and tested in accordance with Section 2300 of the Standard Specifications.

4.3 CONCRETE:

- A. Concrete cylinders shall be prepared by a certified laboratory for testing along with slump, air entrainment, yield, and unit weight in accordance with ASTM C138 and ASTM C143.

4.4 EXPANSION JOINT FILLER:

- A. When required, joint filler shall be tested in accordance with ASTM D1752.

4.5 TOLERANCE:

- A. Line and grade may not vary more than 0.02-foot when tested with a 10-foot straight edge except at grade changes or vertical curves.

END OF SECTION